Remarks

In view of the above amendments and the following remarks, reconsideration of the outstanding office action, dated October 7, 2010, is respectfully requested.

Claims 1, 6, and 53 have been amended. The amendments to claim 1, 6, and 53 are supported on page 5, lines 16-18 of the specification. New claims 120-135 are added. New claims 120-135 find support in original claims 25-40 (now cancelled). Claims 41, 54-58, 65, 74, 91, 98-103, and 112-119 have been cancelled. Support for the amendments to claim 1 is found on page 12, lines 33-35, page 14, line 7 to page 5, line 11, page 15, lines 14-17, page 17, lines 33-36, page 19, lines 35-36, page 21, lines 44-45, page 23, line 5 to page 24, line 1, and page 25, lines 5-20. No new matter has been added by way of these amendments.

Modern agricultural practices rely heavily on the use of chemical inputs to maintain and increase productivity. Agricultural chemical inputs can be broadly categorized as pesticides, fertilizers, and plant growth regulators. Based on monetary expenditure, as well as physical volumes, the vast majority of chemical inputs are in the form of pesticides and fertilizers. In the common agricultural sense, pests are any organisms that contribute to a loss of value or productivity in a crop. Pesticides can be categorized into insecticides, fungicides, herbicides, as well as minor categories such as acaricides, avicides, virucides, and nematicides. In 1996, U.S. farmers spent over $8.5 billion on pesticides. This translates to the use of over 355 million pounds of herbicides, 70 million pounds of insecticides, and 180 million pounds of fungicides and other pesticides in 1996 alone (Fernandez-Conejo and Jans, "Pest Management in the U.S. Agriculture." Resource Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Handbook No. 717.). With some exceptions, fertilizers are typically characterized as substances containing plant macronutrients or plant micronutrients, and are used in as proportionally as large of volumes as pesticides. In 1997, approximately 22 million tons of nutrients were applied in the United States alone (Data from the Economic Research Service, U.S. Department of Agriculture). Plant growth regulators are a class of agricultural chemical inputs whose use is minor compared to pesticides and fertilizers. Nonetheless, plant growth regulators have significant importance in specific agricultural sectors such as fruit production and ornamentals.

Though the increase in use of agricultural chemicals has directly contributed to an increase in productivity, the increased productivity has not come without a price. Most

pesticides present inherent human and environmental health risks. Increasingly, municipalities are identifying hazardous agricultural chemicals, or their residues, in local water sources, streams, and lakes. In addition, the high volumes of pesticides being applied results in the development of pest resistance to the agricultural chemical being applied. Incidences of pest resistance have been documented in most classes of pesticide and a wide range of crop types. Resistance occurs after persistent use of a pesticide or closely related pesticides has decimated a local population of pests, but left a small sub-population of the same pest surviving. The sub-population, either through human pressure or natural divergence of ecotypes, has evolved to be less affected or resistant to the pesticide or closely related pesticides. After repeated cycles of heavy use of the pesticide, decimation of the local population, and survival of the resistant sub-populations, the resistant sub-population eventually multiplies to become the dominant population. The end result being, an entire pest population that is resistant to a given pesticide or closely related pesticides. A once effective and important pesticide is essentially rendered useless to the farmer or commercial grower. Prior to recognition of the actual existence of a resistant pest, the grower having recognized a decrease in efficacy of a pesticide will often intuitively increase the amount of pesticide being applied. Thus, compounding the situation by furthering the propagation of resistant pest through increased use of the pesticide, decreasing the profitability of the crop because of increased purchases of chemical inputs, and simultaneously increasing the human and environmental health risks.

Greater crop yields, resulting from an increased use of fertilizers, have not come without detrimental effects either. Fertilizers are applied to cropland to replenish or add nutrients that are needed by an existing or future crop. The vast majority of the nutrients applied are in the form of nitrogen, phosphorus, and potash (i.e. potassium). Depending on a combination of factors, such as the soil's chemical structure, pH, and texture; fertilizer components can be highly susceptible to leaching. Leaching occurs when the amount of water present in the soil, either from irrigation of rainfall, is greater than the soil's water-holding capacity. When this occurs, solubilized fertilizer components are carried low into the soil and out of the plant root zone, thus effectively removing the nutrients for use by the plant. Nitrate-nitrogen (NO_3^-) is particularly prone to leaching, and can result in hazardous nitrate accumulation in groundwater. In the U.S. and abroad, cropland is commonly overfertilized. Soil nutrient analysis is often viewed as timely and not economically feasible. Thus, fertilizers are often applied at regular intervals regardless of their need. As with pesticides, the over use of the

fertilizers has potentially far reaching detrimental effect on agricultural profitability and risk to environmental health.

In recent years, farmers and agricultural researchers have begun to develop programs and techniques to aid in combating the cycles of increased chemical inputs and decreased profitability. These programs and techniques are commonly referred to as Integrated Pest Management (IPM), or more broadly, Integrated Crop Management (ICM). ICM programs and techniques are being advanced by a range of organizations including; the USDA, land-grant universities and the private sector. ICM Programs are specifically designed with respect to crop type, local environmental conditions, and local pest pressures. In contrast to previous agricultural practices, ICM practices draw on a broad range of techniques and tools including; early and persistent monitoring of pest populations, establishment of acceptable pest population thresholds, the development of chemical control programs that routinely rotate the chemicals being utilized, establishment of cultural control techniques (e.g. adjusting planting and harvesting dates, no-till systems, crop rotation, etc.), promotion of the use of specific plant varieties or transgenic plants, and the development of biological controls techniques (e.g. use of beneficial insects, use of pheromones traps, use of live micro-organisms such as *Bacillius thuringensis,* etc.). Although ICM practices show great promise for combating many of the problems associated with the high chemical input of modern agricultural practices, the ability to increase the efficacy of the commonly used agricultural chemicals would greatly aid in the over all effort. Increased efficacy would provide greater pest control and/or facilitate decreases in the volume of agricultural chemicals used.

As evident from the above discussion, modem agricultural practices dictate the need to apply several agricultural chemicals, often repeatedly, to a single crop over the course of a growing season. To facilitate this need to apply numerous chemicals to a single crop, it has become routine practice to make what is referred to as tank mixes. Tank mixes are a single application of one or more chemical at the same time. The agricultural chemicals that are desired to be applied are combined into one tank, mixed, solubilized if needed, and applied to the crop. There are limitations to this practice in that some agricultural chemicals are not compatible and may precipitate, become inactive, or decrease the efficacy of other chemicals when mixed together. Pesticide interactions are typically characterized as additive, synergistic, antagonistic, and enhancement. Additive effects occur when the combination of two pesticides produces the same amount of control as the combined effects of each of the chemicals applies independently.

Synergistic effects occur when the combined effects of the chemicals is greater than the additive effects. It is assumed that in synergistic pesticide interactions the chemicals are not neutral to one another, and to some extent are chemically interacting with one another. Antagonistic effects are those resulting when the combination of chemicals is less than if the chemicals were used individually. Enhanced effects can occur when a pesticide is combined with an additive that is not a pesticide and the resulting control of the desired pest is greater than if the pesticide was used individually. Factors such as the quantity of water used, the order of mixing the chemicals, and the addition of adjuvants may also affect the utility of a tank mix.

The present invention is directed towards improving the efficacy of agricultural chemicals.

The rejection of claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 under 35 U.S.C. 103(a) for obviousness over U.S. Patent No. 6,001,959 to Bauer et al. ("Bauer") and WO 98/37752 to Zitter et al. ("Zitter I"); U.S. Patent No. 6,624,139 to Wei et al. ("Wei I"); U.S. Patent No. 6,235,974 to Qiu et al. ("Qiu I"); U.S. Patent No. 6,277,814 to Qiu et al. ("Qiu II"); U.S. Patent No. 5,776,889 to Wei et al. ("Wei II"); U.S. Patent No. 5,977,060 to Zitter et al. ("Zitter II"); U.S. Patent No. 5,859,324 to Wei et al. ("Wei III"); U.S. Patent Application Publication No. 2002/0059658 to Wei et al. ("Wei IV"); U.S. Patent No. 6,960,705 to Wei et al. ("Wei V"); and/or U.S. Patent Application Publication No. 2002/0062500 to Fan et al. ("Fan") is respectfully traversed.

Bauer discloses that a hypersensitive response elicitor protein or polypeptide from *Erwinia chrysanthemi* can be applied to all or part of a plant to impart pathogen resistance to the plant. Bauer further teaches that the hypersensitive response elicitor protein or the polypeptide alone, mixed with a carrier, and/or with plant treating agents (e.g., fertilizers, insecticides, fungicides, etc.) can be applied to the plant. However, Bauer fails to teach or suggest a method for increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*r. Example 1 of the present application describes a study undertaken to determine if pre, post, or tank-mix application of Messenger® (active ingredient: hypersensitive response elicitor protein from *Erwinia amylovora*, $\text{Harpin}_{\text{Ea}}$) affected the ability of Roundup

UltraMAX (active ingredient: glyphosate) to control weeds. Tables 6-9 of Example 1 show the effect of Messenger® upon Roundup UltraMAX's efficacy. It is evident that the inclusion of Messenger® with Roundup UltraMAX significantly increases Roundup UltraMAX's ability to control of weed in each case where Roundup UltraMAX did not achieve 100% effectiveness.

Zitter I teaches a method of insect control for plants. This involves applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form to plants or plants seeds under conditions effective to control insects on the plants or plants grown from the plant seeds. Zitter I also teaches a composition suitable for treating plants or plant seeds which may contain additives including fertilizer, insecticide, fungicide, nematicide, herbicide, and mixtures thereof. However, Zitter I fails to teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Therefore, Zitter I fails to overcome the deficiencies of Bauer as described above.

Wei I is directed to imparting stress resistance to plants. This involves applying a hypersensitive response elicitor polypeptide or protein, isolated from a Gram negative bacterium, in a non-infectious form to a plant or plant seed under conditions effective to impart resistance against heat stress, chemical stress, salt stress, or stress caused by calcium deficiency. Wei I also teaches a composition suitable for treating plants or plant seeds which may contain additional additives including fertilizer, insecticide, fungicide, nematicide, and mixtures thereof. However, Wei I fails to teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Therefore, Wei I fails to overcome the deficiencies of Bauer as described above.

Qiu I relates to a method of producing plant seeds which impart pathogen resistance to plants grown from the seed. The method involves applying a hypersensitive response elicitor protein or polypeptide in a non-infectious form to plant seeds under conditions

effective to impart pathogen resistance to plants grown from the seeds. The hypersensitive response elicitor protein is protease sensitive and heat stable at 100 °C. Qiu I also teaches a composition suitable for treating plant seeds which may contain additional additives including fertilizer, insecticide, fungicide, nematicide, herbicide, and mixtures thereof. However, Qiu I fails to teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical.* Therefore, Qiu I fails to overcome the deficiencies of Bauer as described above.

Qiu II teaches a method of enhancing growth in plants compared to untreated plants. The method involves applying a hypersensitive response elicitor protein or polypeptide in a non-infectious form to a plant or plant seed under conditions effective to enhance growth of the plant or plant grown from the plant seed, compared to an untreated plant or plant seed, wherein the hypersensitive response elicitor protein or polypeptide is heat stable, glycine rich, and contains no cysteine. Qiu II also teaches a composition suitable for treating plant or plant seed which may contain additional additives including fertilizer, insecticide, fungicide, nematicide, herbicide, and mixtures thereof. However, Qiu II fails to teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying a hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical.* The U.S. Patent and Trademark Office's ("PTO") reliance on Examples 11-13 of Qiu II is misplaced. These examples only look at yield; they do not involve the use of pesticides and fertilizers, let alone show that applying a hypersensitive response elicitor will increase the efficacy of these chemicals. Therefore, Qiu II fails to overcome the deficiencies of Bauer as described above.

Wei II teaches a method of imparting pathogen resistance to plants. This involves applying externally to a plant a hypersensitive response eliciting bacterium, which does not cause disease in that plant, or a hypersensitive response eliciting polypeptide or protein wherein the

hypersensitive response eliciting protein or polypeptide corresponds to that derived from a pathogen selected from the group consisting of *Erwinia amylowora*, *Erwinia chrysanthemi*, *Pseudomonas syringae*, *Pseudomonas solancearum*, *Xanthamonas campestris*, and mixtures thereof. Wei II also teaches that a composition suitable for imparting pathogen resistance to plants may contain additional additives including fertilizer, insecticide, fungicide, and mixtures thereof. However, Wei II fails to teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Therefore, Wei II fails to overcome the deficiencies of Bauer as described above.

Zitter II teaches a method of controlling insects on plants. The method involves applying a hypersensitive response elicitor protein or polypeptide in a non-infectious form, to a plant or plant seed under conditions effective to control insects on the plant or plant grown from the plant seed. Zitter II also teaches that a composition suitable for treating plants or plants seeds for insect control may contain additional additives including fertilizer, insecticide, fungicide, nematacide, herbicide, and mixtures thereof. However, Zitter II fails to teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Therefore, Zitter II fails to overcome the deficiencies of Bauer as described above.

Wei III teaches a pathogen-resistant plant. A hypersensitive response elicitor bacterium, which does not cause disease in that plant, or a hypersensitive response eliciting polypeptide or protein have been externally applied to this pathogen-resistant plant. The hypersensitive response eliciting polypeptide or protein corresponds to that derived from a pathogen selected from the group consisting of *Erwinia amylowora*, *Erwinia chrysanthemi*, *Pseudomonas syringae*, *Pseudomonas solancearum*, *Xanthamonas campestris*, and mixtures thereof. Wei III also teaches that a composition suitable for imparting pathogen-resistance to

plants may contain additional additives including fertilizer, insecticide, fungicide, and mixtures thereof. However, Wei III fails teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Therefore, Wei III fails to overcome the deficiencies of Bauer as described above.

Wei IV relates to methods of improving the effectiveness of transgenic plants, either by maximizing the benefit of the transgenic trait in the transgenic plant or overcoming deleterious effects on growth, stress tolerance, disease resistance, or insect resistance in transgenic plants expressing a transgenic trait. The method involves providing a transgenic plant or plant seed comprising a gene conferring a transgenic trait to the plant or plant grown from the plant seed and applying to the plant or plant seed a hypersensitive response elicitor protein or polypeptide. Wei IV also teaches using a composition that contains additives including fertilizer, insecticide, fungicide, nematacide, herbicide, and mixtures thereof. However, Wei IV fails teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Therefore, Wei IV fails to overcome the deficiencies of Bauer as described above.

Wei V teaches an isolated DNA molecule encoding a *Xanthomonas campestris* hypersensitive response elicitor protein or polypeptide. The DNA molecules encodes such a protein which has the following uses: imparting disease resistance to plants, enhancing plant growth, controlling insects on plants, imparting stress resistance, imparting post-harvest disease resistance, maximizing the benefit of overcoming a yield penalty associated with a transgenic trait, inhibiting desiccation of cuttings from ornamental plants, and promoting early flowering of an ornamental plant. Wei V also teaches that a composition suitable for treating plants, plant seeds, plant cuttings, or fruits and vegetables may contain additional additives including fertilizer, insecticide, fungicide, nematicide, and mixtures thereof. However, Wei V fails to

teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical.* Therefore, Wei V fails to overcome the deficiencies of Bauer as described above.

Fan teaches an isolated hypersensitive response elicitor protein which includes an isolated pair or more of spaced apart domains, with each comprising an acidic portion linked to an alpha-helix and capable of eliciting a hypersensitive response in plants. Fan also teaches an isolated nucleic acid molecule which encodes such a hypersensitive response eliciting protein or polypeptide. Fan discloses a composition for eliciting a hypersensitive response in plants which may contain additional additives including fertilizer, insecticide, fungicide, nematicide, and mixtures thereof. However, Fan fails to teach or suggest a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical.* Therefore, Fan fails to overcome the deficiencies of Bauer as described above.

For all the above-noted reasons, the rejection of claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 under 35 U.S.C. 103(a) is improper and should be withdrawn.

The rejection of claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 on the ground of non-statutory obviousness type double patenting as being unpatentable over claims 1-10, 14, and 17 of Qiu II; claims 1 and 23 of Wei II; claims 1 and 17 of Zitter II; and unidentified claims of Wei III is respectfully traversed.

Claims 1-10 of Qiu II are directed towards a method of enhancing growth in plants compared to untreated plants. The method involves applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form to a plant or plant seed under conditions effective to enhance growth of the plant or plant grown from the plant seed, compared to an untreated plant or plant seed, wherein the hypersensitive response elicitor protein or polypeptide is heat stable, glycine rich, and contains no cysteine. Claim 17 of Qiu II is directed to a method,

which ultimately depends from claim 1, where the hypersensitive response elicitor polypeptide or protein is applied to plants or plant seeds as a composition further comprising additives selected from the group consisting of fertilizer, insecticide, fungicide, nematicide, and mixtures thereof. However, none of the claims are directed to a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical.* Therefore, claims 1-10, 14, and 17 of Qiu II are patentably distinct from claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 of the present application.

Claim 1 of Wei II is directed to a method of imparting pathogen resistance to plants. This involves applying externally to a plant a hypersensitive response eliciting bacterium, which does not cause disease in that plant, or a hypersensitive response eliciting polypeptide or protein wherein the hypersensitive response eliciting protein or polypeptide corresponds to that derived from a pathogen selected from the group consisting of *Erwinia amylowora*, *Erwinia chrysanthemi*, *Pseudomonas syringae*, *Pseudomonas solancearum*, *Xanthamonas campestris*, and mixtures thereof. Claim 23 of Wei II relates to a method, which ultimately depends from claim 1, where the hypersensitive response elicitor polypeptide or protein is applied to plants or plant seeds as a composition further comprising additives selected from the group consisting of fertilizer, insecticide, fungicide, and mixtures thereof. However, none of the claims are directed to a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to the plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to a plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical.* Therefore, claims 1 and 23 of Wei II are patentably distinct from claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 of the present application.

Independent claim 1 of Wei III is directed to a pathogen-resistant plant. This pathogen-resistant plant to which a hypersensitive response elicitor bacterium, which does not cause disease in that plant, or a hypersensitive response eliciting polypeptide or protein has been

externally applied, wherein the hypersensitive response eliciting polypeptide or protein corresponds to that derived from a pathogen selected from a group consisting of *Erwinia amylowora*, *Erwinia chrysanthemi*, *Pseudomonas syringae*, *Pseudomonas solancearum*, *Xanthamonas campestris*, and mixtures thereof. However, none of the claims are directed to a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying a hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Indeed, the claims of Wei III and the claims of the present application relate to distinct classes of invention -- i.e., plants v. methods of using, respectively. Therefore, the claims of Wei III are patentably distinct from claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 of the instant application.

For all of these reasons, the rejection of claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 on the ground of non-statutory obviousness type double patenting is improper and should be withdrawn.

The provisional rejection of claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-33 of co-pending U.S. Patent Application Serial No. 12/536,750 ("`750 application") is respectfully traversed.

Claim 1 of the `750 application is directed towards a method of making a stable liquid composition containing a harpin protein or polypeptide, the method comprising: obtaining a liquid extract that is substantially free of cellular debris and comprises a harpin protein or polypeptide; and introducing into the liquid extract a biocidal agent and, optionally, one or both of a protease inhibitor and a non-ionic surfactant, thereby obtaining a liquid composition comprising the harpin protein or polypeptide that retains harpin activity for at least about 72 hours. Claim 15 of the `750 application is directed to a composition comprising an aqueous carrier, a harpin protein or polypeptide, an effective amount of a biocidal agent, and optionally, an effective amount of one or both of a protease inhibitor and a non-ionic surfactant, whereby the composition retains harpin activity for at least about 72 hours. However, none of the claims are directed to a method of increasing the efficacy of agricultural chemicals selected from the group consisting of pesticides, fertilizers, and combinations thereof by applying at least one of the

agricultural chemical to a plant or plant seed under conditions effective for the agricultural chemical to perform its intended function and applying at least one hypersensitive response elicitor protein or polypeptide to the plant or plant seed under conditions effective *to increase the efficacy of the agricultural chemical*. Indeed, the claims of the `750 application and the claims of the present application relate to distinct classes of invention -- i.e. methods of making and compositions v. methods of using, respectively. Therefore, the claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 of the present invention are patentably distinct from claims 1-33 of the `750 application. For this reason, the rejection of claims 1-8, 49, 50, 53-58, 99-101, 106, and 114 on the ground of non-statutory obviousness type double patenting is improper and should be withdrawn.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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